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Math Department Newsletters

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Fall 2019

## **$\Sigma$ -ARY**

Minnesota State University Moorhead, Mathematics Department

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### **Recommended Citation**

Minnesota State University Moorhead, Mathematics Department, " $\Sigma$ -ARY" (2019). *Math Department Newsletters*. 38.

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MINNESOTA STATE UNIVERSITY MOORHEAD

# $\Sigma$ -ARY



Mathematics Department  
**NEWSLETTER** FALL 2019

## James Wallen's Legacy Reignited

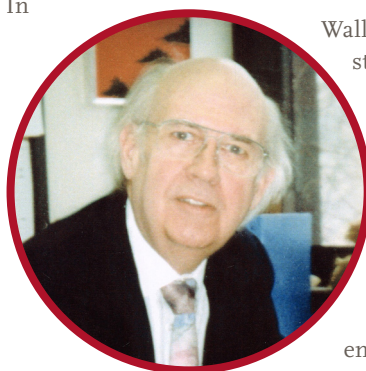
**W**hen James Wallen joined the department in 1967, it was home to both mathematics and computer science. At that time, mathematics offered only two major programs, the Bachelor of Science degree for secondary teachers and the Bachelor of Arts degree for all other students. Variability in the non-teaching major was limited and depended solely on elective courses. In his second year, Wallen developed and taught a first course in topology, which gave students a welcome option not formerly available.

Wallen was originally from Reevesburg, Wis., and earned his undergraduate degree from Whartburg College in Waverly, Iowa. Wallen completed a master's degree with an emphasis in number theory from the University of Nebraska, Lincoln, prior to his appointment at Moorhead State College (MSC).

When the Tri-College was established in 1969, departmental faculty chose Wallen to be MSC's representative on the committee that initiated the very successful Tri-College Mathematics Colloquium, which still thrives today, nearly 50 years later. Wallen assumed other responsibilities in service to the department and its students, among them the departmental library representative and the Mathematics Club advisor. Marion Smith began the Mathematics Club in the 1950s. Years later, Derald Rothmann replaced Smith and then turned this responsibility over to Wallen in 1967. Wallen served as the Club's advisor until his death in 1997 from a congenital heart condition.

In the early 1970s, Wallen and Rothmann developed the original year-long mathematics sequence for accounting and business majors, Math 273, 274, 275. The first course included pre-calculus topics and linear programming, while the latter two courses focused on probability and statistics. In these courses, business students studied conditional probability, hypothesis testing, confidence intervals, analysis of variance, and time series.

When not at work, Wallen enjoyed playing and teaching bridge; he was a Lifetime Master Bridge player. In the 1970s and 1980s, Wallen and Rothmann often played golf together. Rothmann recalls the time that Wallen hit his ball through a pond, onto the green, and right next to the pin. Rothmann is silent about whether it was skill or luck.



Wallen was well liked by and enjoyed interaction with students. Advising the Mathematics Club for three decades speaks volumes. Those who worked with him fondly remember his distinctive, if not sort of "goofy," laugh. In later years, students were overheard from time to time observing his uncanny resemblance to Ben Franklin, which amused him greatly. It was so fitting that his scholarship to assist students with the cost of college became the second departmental endowed scholarship just a few months after he died. The scholarship was begun by Betty Burrow,

Wallen's companion and fellow bridge player. The scholarship is awarded annually to an upper-class mathematics student for expenses during the senior year. It is based on academic performance and the department determines the awardee without student application.

This year, the Mathematics Club decided that in the future the Club will donate 25 percent of the money raised from their various activities to the Wallen Endowment Fund in support of his scholarship. Jim would have liked that so very much and would also have been pleased that the group he worked so closely with throughout his career will from now on be part of the recommendation process to select student awardees for the James T. Wallen Scholarship.

*The department is grateful to Derald Rothmann for the information he provided about James Wallen for this article and also thanks Walter Sizer for his history of the mathematics department, which lent context to Wallen's early years here.*



## Mathematics Department

# Mathematics Awards for Outstanding Students

**T**he faculty of the Mathematics Department annually selects outstanding students in mathematics for recognition of their achievements. This year, 39 students were recognized and over \$26,000 was given out in scholarships and awards. This year's Outstanding Senior Awards go to **Devon Binstock**, **Qin Chen**, **Samuel Holen**, **Natalie Huntley**, **Joshua Meader**, **Leslie Miller**, **Aidan Shafer**, **Zachary Snell**, **Caleb Waldner**, **Jennifer Williams**, and **Madalyn Winger**.

## The following students received Outstanding Senior Awards

**Devon Binstock** is from Strandquist, Minn., and is the son of Scott and Patti Binstock. Throughout his college career he worked at Edgewood Vista in Fargo. Devon received a B.S. in Mathematics with a computational emphasis in the fall of 2018. He plans to intern at eOne Solutions in Fargo and would like to work in the technology field using his programming and mathematics skills.

**Qin Chen** is from Fujian, China, and is the daughter of Zhixing and Xiumei Chen. She was the president of the MSUM Chinese Club for 2016-17 and tutored for mathematics, accounting and economics. Qin graduated with a B.S. in Accounting and a B.S. in Actuarial Science with a minor in Statistics. She hopes to work as an actuary, then attend graduate school for analysis to prepare for a career as a data or business analyst. "I have

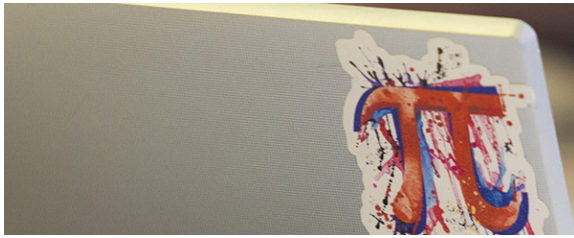
enjoyed doing math since I was a kid. Faculty and staff in the MSUM Mathematics Department are so nice and kind-hearted. They are helpful and willing to help me with any question. I love my life at MSUM!"

**Samuel Holen** is from Fertile, Minn., and is the son of Al and Jewel Boit. He was involved in Math Club and worked as a tutor and learning assistant. Sam received a B.A. in Mathematics and B.S. in Physics. He is considering graduate school for the future.

**Natalie Huntley** is from Lake Elmo, Minn., and is the daughter of Doug and Pam Huntley. She received an Elementary Inclusive Education degree with a math endorsement and a special education minor. Natalie was on MSUM's swim and dive teams (captain), Student Athlete Advisory Committee, Athletes in Action, was a math tutor and honors apprentice. She hopes to find a teaching position in the twin cities.

**Joshua Meader** is from Perham, Minn. He graduated with a B.S. in Elementary Inclusive Education with minors in Math and Coaching.

**Leslie Miller** is from Saint Anthony, N.D., and is the daughter of Dale and Val Miller. She was involved in Math Club, Actuarial Science Club, Dragon Leadership Program, Math Learning Center Tutor, Housing and Residential Life, and also taught piano lessons. Leslie graduated with a B.S. in Actuarial Science and will be working as a life/health actuary in the corporate building of State Farm Insurance in Bloomington, Ill.



**Aidan Shafer** is from Minot, N.D., and is the son of Michelle and Brandon Shafer. He worked at MSUM's Planetarium and participated in various math competitions. Aidan graduated with a B.S. in Physics and a B.A. in Mathematics. He hopes to go on to graduate school.

**Zachary Snell** is from Grand Rapids, Minn., and is the son of Marla Snell and Tim Snell. While at MSUM, he was a math tutor and member of Actuarial Science Club, Math Club, National Society of Leadership and Success, and participated in PUTNAM competition, NCS-MAA Math Team Contest, and the Midwest Undergraduate Data Analytics Competition (MUDAC). Zachary graduated fall 2018 with a B.A. in Mathematics, B.S. in Actuarial Science, certificate in Business Analytics, minors in Finance, Business Administration and Statistics. He also has an A.A. degree from Itasca Community College, which he completed while in high school. He will be an actuarial assistant in Indianapolis, Ind.

**Caleb Waldner** is from Hawley, Minn., and is married to Lydia Waldner. They have two sons, Taman and Moses. He graduated with a B.S. in Elementary Inclusive Education with a minor in Mathematics. Caleb will teach middle school math and science at Spring Prairie Colony School near Hawley. "Being a full-time teacher is my long-term plan as I truly enjoy working with children and making a positive impact on their lives."

**Jennifer Williams** is from Montevideo, Minn., and is the daughter of Kathy and Brian Williams. She is a Noyce Scholar and tutor in the Math Learning Center. Jennifer graduated with B.S. in Math Education and a B.A. in Mathematics. She plans to teach math at the high school or middle school level.

**Madalyn Winger** is from Alexandria, Minn., and is the daughter of Randy and Maureen Winger. She was involved in Math Club, Actuarial Science Club, MSUM Swim and Dive team, and was also a math tutor, wellness educator, intern at Federated Insurance and a

youth swim coach. Madalyn received a B.S. in Actuarial Science and Economics with a minor in Finance. She is relocating to Bloomington, Ill., where she will work at State Farm as an actuarial analyst in the Property and Casualty department. "I am excited for this new adventure and the opportunities at State Farm."

## Scholarship & Awards

**Senior Actuarial Science and Criminal Justice major Jacob Pawlowski** was awarded the **James Wallen Scholarship**, **Carl Carlson Scholarship** and a **Tim and Kathy Peil Mathematics Scholarship**. Jacob is from Rogers, Minn., and is the son of John and Julie Pawlowski. He is involved in Math Club, Actuarial Science Club, Club Tennis, and Wind Ensemble. After graduation, Jake plans to work as an actuary or in crime data analytics. "I'd like to thank the scholarship donors and my family for all their support, and I look forward to my last two years of college!"

**Junior Math Education major Nathan Stracke** was awarded a Ken Garland Scholarship. Nathan is from St. Cloud, Minn., and is the son of Stephanie and Larry Stracke. He is involved in Moorhead Catholic Campus Ministries (MCCM) and hopes to teach math at a Catholic school.

**Junior Math Education and Mathematics major Heather Sauve** was awarded a Ken Garland Scholarship. Heather is from Forest Lake, Minn., and is the daughter of Les and Melinda Sauve. She is involved in intramural athletics and plans to be a secondary level math teacher.

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**Junior Math Education major Alexa Johnson** was awarded the Katherine Leonard Scholarship. Alexa is from Fargo, N.D., and is the daughter of Barb and LeRoy Johnson. She is married to Torey Garletz. Alexa plans to teach math at the secondary level. "I have loved my time at MSUM and am so grateful for everyone in the math department."

**Junior Actuarial Science major with a minor in Statistics, Zoljargal Boldbaatar** was awarded the Marion Smith Scholarship and a Tim and Kathy Peil Mathematics Scholarship. Zoljargal is from Mongolia and is the daughter of Boldbaatar Sanduijav and Oyunerdene Shagsuren. She is involved in Actuarial club and is a note taker for students with special needs. She plans to work in the insurance industry as an actuary.

**Junior Mathematics major Rachel Schmiess** was awarded the Bette G. Midgarden Scholarship and a Tim and Kathy Peil Mathematics Scholarship. Rachel is from Sabin, Minn., and is the daughter of Sheldon and Tammie Schmiess.

**Senior Math Education major Gina Holdvogt** was awarded the Rothman Scholarship. Gina is from New Munich, Minn., and is the daughter of Bernie and Alvin Holdvogt. She plans to teach and coach in a rural school district.

**Junior Math Education major with a minor in Special Education, Cassidy Wheeler** was awarded the Shelda Warren Scholarship. Cassidy is from Viking, Minn., and is the daughter of Christy Wheeler and stepfather Rich Anderson. She has a fiancé, Cameron Norenberg. Cassidy is involved in intramural athletics and plans to move somewhere "not so flat," where she and her fiancé will get teaching jobs.

**Junior Actuarial Science major Taylor Irwin** was awarded a Marion Smith Scholarship. Taylor is from Dilworth, Minn.

**Senior Mathematics major with a Physics minor Courtney Magnuson** was awarded a Bette G. Midgarden Scholarship. Courtney is from Willmar, Minn., and is the daughter of Ross and Kelly Magnuson. She is involved in intramural sports and tutoring in the Math Learning Center. When not studying or in class, she spends much of her time working out, coaching classes and being involved in the community at EHP Crossfit in Moorhead. Courtney plans to either attend graduate school or work in an engineering field after graduation.

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## Other Awards

Mathematics Recognition Awards: **Jena Backes, Jacquelyn Schmidt, David Wichmann;**

Junior Mathematics Award: **Alexis Konecne;**

Sophomore Mathematics Awards: **Gavin Canlas-Rinke, Savannah Drey, Charlie Lien, Madelyn Madsen, Gantigmaa Otgontula;**

Freshman Mathematics Awards: **Zoljargal Boldbaatar, Abby Bormann, Lucas Clark Burnette, Anna Elgersma, Gudrun Hall, Emily Ketelson, Ronni Kurtzhals, Keigan Rantala, Joshua Schmiess, Nicolas VanRaden;**

Incoming Freshman Award: **Renzen Caughey**







## Faculty Professional Activities

**Sayel Ali** attended the fall and spring meetings of the NCS of the MAA.

**Ashok Aryal** attended and presented his research work at the 38th Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE), University of North Georgia, October 2018. He also attended and gave a talk at North Central Section, Mathematical Association of America, Augsburg University Minneapolis, April 2019.

**Ed Chadraa** continues to work as the statistician member of the Data Monitoring and Safety Board (DMSB) for a clinical trial conducted by researchers at Harvard School of Public Health. This is a five-year long clinical trial, funded by National Institute of Health, to determine the effect of Vitamin D on reducing the risk of latent tuberculosis infection in school age children in Mongolia. He will be on sabbatical this next year and will be spending his time

**Hongyan Hou** published "Convergence rate for a Radau hp collocation method applied to constrained optimal control" with William W. Hager, Subhashree Mohapatra, Anil V. Rao, Xiang-Sheng Wang, in the journal Computational Optimization and Applications.

**Ellen Fagerstrom** will be the Associate VP for Academic Affairs for the 2019 – 2020 Academic year.

**Damiano Fulghesu** gave two talks this year one entitled Intersection Theory of Irreducible Plane Curves at FRAGMENT (Front Range Interested in Algebra, GeoMEtry and Number Theory), and the other entitled Tilings of Finitely Generated Groups at the Colorado Springs Algebra Seminar.

**Justin James** was incredibly busy this year. Some highlights include working as treasurer for the MAA NCS and helping prepare and submit the MSUM's application for the

Carnegie Engaged Campus Classification.

Justin also participated in a SEED Leadership workshop and helped secure a grant with the Moorhead Public Schools to train faculty, staff, and community members. "SEED is a peer-led professional development program that promotes change through self-reflection and interpersonal dialogue and builds capacity for more equitable curriculum, campuses, workplaces, and communities.... In their local, year-long SEED seminars, SEED leaders and colleagues use their own experiences and those of their students and children to widen and deepen school and college curricula and make communities more inclusive."

Justin's work on diversity and inclusion with Raymond Rea earned them both a 2019 Employee Excellence Award in for Commitment to Diversity for their development of the Certificate in Cultural Competence.

**Carol Okigbo** gave a talk entitled A Triangulated Exploration of Mathematics Teachers' Conceptions of Problem Solving at the Third Regional Mixed Methods Research Conference on "Integrating Qualitative and Quantitative Approaches: Tensions, Challenges and Possibilities".

## New Hires

The Mathematics Department will be welcoming a new faculty member to the department next year.

**Sara Solhjem** will be joining the math department permanently. Sara has been a fixed term in our department for three semesters. She has a Ph.D. in Mathematics and many years of experience teaching high school mathematics. She is a welcome and versatile addition to our department.

Additionally, the math department welcomes two new fixed term faculty members, **Dr. Andrew Ellett** and **Mrs. Megan (Nygaard) Jensen**, MSUM 2013 graduate.



Pictured: Vince Felchle (left) and Genie Price (right)

## Vince Felchle inducted into MSUM Athletics Hall of Fame

*The Mathematics Department would like to congratulate Vince Felchle on being inducted into the MSUM Athletics Hall of Fame.*



Vince was a four-year member of track and field and men's basketball teams at MSUM, a member of the award-winning basketball Dragons of 1970-71 that claimed the NIC title, advanced to post-season play, finished 24-2 overall and ranked fourth in the nation. He was named

Most Valuable Freshman in track, claimed five conference titles in long and triple jump. Also, he scored the most individual points ever as a senior, set numerous Nemzek Fieldhouse and track meet records, and led the basketball team in field goal percentage as a sophomore. And, Felchle was a math major to boot.

Vince is now an accomplished wine consultant after working many years for Texas Instruments. Congratulations on all of your achievements from MSUM to beyond. ■



## Mathematics Department

# News and Notes 2018-2019



### Alumnus Eric Eager was invited SAC speaker

Dr. Eric Eager was the invited speaker for the Andrew B. Conteh Student Academic Conference.

He spoke on his career path and how his MSUM work and experiences, both in mathematics and football, helped prepare him for his role as a senior analyst at Pro Football Focus.

During his visit, he met with actuarial science students, the math and actuarial clubs, and the football team. We appreciate the generosity of Dr. Eager and the many fantastic mathematics alumni who have passed through our department.

## Student News

### Students exceed national actuarial pass rates Actuarial Achievements

The pass rate for actuarial exams among MSUM students (50%) continues to exceed the national average (30-40%). The following students passed Exams P and FM this year: Jacob Pawlowski, Jenna Kalthoff and Qin Chen.

### Student research focuses on predicting, preventing crimes

Jacob Pawlowski studied models that use partial differential equations to fight crime. He presented his talk Predictive Policing: Using Math to Predict and Prevent Crimes at

the Pi Mu Epsilon Conference at St. John's University and College of St. Benedict.

### MSUM hosted spring math competition

MSUM hosted the Tri-College Mathematics Competition in March of 2019. More than 1,000 local Middle School and High School students come to our campus to compete in individual and group exams.



### Students and faculty attend MCTM conference in Duluth (pictured above)

Students and faculty attended the MCTM conference in Duluth, Minn. Student Jena Backes presented "Activities and Courses in Mathematical Studies with Programming" with Professor Tim Harms. Also in attendance at this conference were alumni Kyle Benjamin, Erin Giosta, and Jennifer Williams.





## Mathematics Department

# Math Club Makes a Commitment

**S**hortly after the sudden death of Professor Jim Wallen, the Math Club, encouraged by Betty Burrow, helped establish the second endowed scholarship in the Mathematics Department. Since its inception, the Wallen Scholarship has supported many talented and dedicated students through their pursuit of a mathematics degree.

The Wallen scholarship has been quietly operating on accrued interest for the last 22 years. This year, the Math Club decided to make an investment into the Wallen scholarship. The students will invest 25 percent of their fundraising profits in the Wallen scholarship, so that they can play an integral part in helping students of the future afford the costs of a college education.

Math Club has been in existence for at least 60 years and has participated in many activities. Below are some of the fun and educational activities the Math Club does to give students an active break from their intense studies.

- ▶ Math Club travels each year to Pi Mu Epsilon, a conference at St. John's University and the College of St. Benedict, where many of our students have presented their research and met many excellent researchers who give impressive talks.
- ▶ The club's annual Halloween party has been going on for 10 years and has been held at Professor Adam Goyt's house. The students show off their creativity in designing the best math-related costume. There is food and fun and, of course, the Thriller Dance.

- ▶ The T-shirt has been Math Club's main fundraiser for many years and it's always exciting to see what new and fresh idea the students will come up with. The second fundraiser, Pi Your Professor, has become an annual tradition at Homecoming. During the Ice Cream Social, students have the opportunity to put whipped cream pies in their "favorite" professor's face. This is always a hit and brings out the best heckling the math department offers.

- ▶ Most importantly, Math Club is a place where lifetime friendships are formed. Math Club meetings are often fun events, where games are played, laughs are had, and good food, baked by Dr. James, is eaten. Many wedding parties include friends who met at math club meetings, and at least one wedding included the thriller dance in its Math Club Halloween party form.

The Math Department wishes to thank all of those who have participated in Math Club since its inception. The memories are priceless. We also encourage you to share your Math Club memories for the next issue of the Summary. We will dedicate space to memories you wish to share. Pictures are welcome! We end this with an Asymptotic High Five because with Math Club, the Fun Never Ends!



## Mathematics Department

# 2019 Alumni News

**'48 Virginia (Trowbridge) Stangeland '48:** I'm 92 and taught math a few years in Hancock, Comstock and Barnesville (all Minnesota) and taught part-time physical education at Oak Grove in Fargo, N.D. I raised seven children (six living) and have 10 grandchildren and three great-grandchildren. I'm a widow. My husband Arlan Stangeland died five years ago. We farmed and he served eight years in the Minnesota House of Representatives and 14 years in the U.S. Congress. We were married for 63 years.

**Kenneth E. Garland '54:** I earned math and history degrees—B.A., & B.S. from MSUM in 1954; M.A. (1961) and Ph.D. (1967) from the University of Minnesota. I have worked in schools and school districts for 63 years—first as a math teacher, assistant principal, and many years in central administration, primarily on the business/financial side of school administration. I am a student of State Finance formulae for school districts and have participated in MN, AZ and CA as a school finance expert. Currently, I still work for the Flagstaff (Ariz.) Unified School District. I have worked for the Minnesota Department of Education, The Overseas Dependent Schools (DOD) in Europe, schools in Minnesotak including Ortonville, Mankato, and Rochester, Phoenix, Ariz., schools and Bakersfield, Calif., schools. I have a math scholarship for math majors at MSUM, and continue to encourage all youth to achieve at their maximum. I am especially interested in helping math majors and encouraging them to teach the next generation.

**'59 Jack E. Stengl '59:** I retired in 1995 and I am presently a volunteer teacher of mathematics at Kennedy Elementary School in the Norman (Okla.) Public School system.

**Jim VanTassel '61:** I taught school for seven years, worked for IBM for 25 years, then started and operated a software business until I retired. I'm enjoying life.

**'62 Dian Rae Holthusen Lopez '62:** Retirement is great! I spent two weeks in Spain recently visiting Andy's relatives and sightseeing (the miles of standing aqueducts are fantastic - built 2000 years ago by the Romans with no cement to hold the rocks together). Here in Alexandria, I am looking forward to my fruit and vegetable garden—I made over 40 apple pies last fall plus applesauce and 50 pints of raspberry and strawberry jam. As co-chair of Age Friendly Alexandria, I am working with the community to address problems such as transportation, mental health and opioids, homelessness, and elder care (keeping us elders in our homes).

**John C. Peterick '62:** I taught all math in Erskine, Minn., from fall of 1962 to spring of 1964. I taught junior high math and geometry in Mahanomen from fall of 1964 to spring of 1998. I still substitute teach at Norman County East and Mahanomen and hope to do so until 2020 when I will be 80. I also served as A assistant football coach in Mahanomen for 33 years, the most desirable assistant coaching job in the state.

**'63 Al Amundson '63:** I taught high school math in Minnesota for 35 years—two years at Claremont, and 33 years in Red Lake Falls. Also while teaching and after retiring, I worked 35 years adjusting crop insurance. Since 2016, I am now retired.

**Thomas (Tom) Bertek '65:** I taught one year of school in California (I hated it). Then I went on to work for the Oregon Highway Department two years and the King County Department of Public Works in Seattle for 31 years. I quit in 1999 and had a stroke in 2000. I followed that up by spending 23 years touring the world. I'm now retired.

**John W. Anderson '66:** I'm retired living the good life.

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**'68 David L. Jacobson '68:** My wife Carol and I live in a senior cooperative. Recently, we flew to San Juan, got on a cruise ship, and visited Aruba, Curacao, Grenada, St. Lucia, Barbados, St. Kitts, and Puerto Rico. We also are members of the Disney Vacation Club and visit Disney World frequently. I am in my 48th year as a tenor in a church choir.

**Jerome Degerness '69:** So far in 2019, I have attended the American Baseball Coaches Convention in Grapevine, Texas, visited my daughter, Jillian, in Austin, Texas, and played 31 baseball games (25 in Fort Myers, Fla., and six in Las Vegas, Nev.) I am chairman of the Woodbury Lions Club Scholarship Committee and serve as president and baseball director of the Woodbury Youth Athletic League. 2018 was another good year with wonderful family, lots of travel, and a day to day life style that is great fun. During the summer, I managed two high school age teams and coached the Legion 1A team. Both teams did well with the Legion 1A team winning two games at their state tournament and the Gopher State team made it to their championship game where they lost a heartbreaker in extra innings. As a player, I participate in the local over 50 league. I continued my Lions Club membership at a moderate commitment level. I upped the ante a little bit with regard to helping manage the WYAL youth summer baseball program. Guitar playing takes up a good part of most days with a new song in the works at all times.



**Willis Frazee '70:** I earned a B.S. in Mathematics (1970) from Moorhead State College, and an M.A. in Mathematics (1972) from University of Arizona. I taught February 1972-June 1976, 7-12 math teacher in Mahanomen Public Schools. From July 1976-June 1978, I was the computer coordinator at Alexandria Public Schools. From July 1978-January 2013, I was a software analyst, Region 1, in Moorhead. I retired in 2013 and moved to Rochester, Minn., in 2015.

**'71 Vince Felchle '71:** I was inducted into MSUM's Athletic Hall of Fame for track in October 2018. I'm also a member of the 1970-71 basketball team, which was inducted into MSUM's Athletic Hall of Fame in September 2013. Therefore, I am a two-time member/inductee into the MSUM Athletic Hall of Fame! I retired from Texas Instruments in 2004 after 31 years of service as a computer systems analyst and project leader.

I've worked as a wine consultant for Sigel's, a retail store in Dallas, for 12 years. I'm cut back to 5-10 hours per week and am enjoying more of my retirement days. I'm preparing for the best years ahead.

**'72 Don Kurpiers '72:** I officially retired in December of 2017, after teaching math for 45 years, the last 33 at St. James (Minn.) High School. Teaching concurrent enrollment class of college algebra for Minnesota State in Mankato was a staple for the last 10 years, after earning my master's degree through Saint Mary's University.

**Patricia Mahan Botner '73:** I'm retired and living in The Villages, Fla.

**'73 Doug Pansch '73:** I graduated in 1973 with a B.S. degree and a double major in Computer Science & Mathematics. I only had one job interview in my career and that was with Control Data Corporation (CDC) after college. I started work at CDC as a software test engineer on June 11, 1973. I worked at CDC for 15 years in various engineering roles then moved into management. In July 1973, CDC sold the work group I managed (there were 13 of us) to a California start-up company called Open Vision. In May of 1997, Open Vision and Veritas merged, becoming Veritas. The key product our work group engineered was called NetBackup. It is well known in the storage industry and has won many technology awards and generated many billions of dollars in revenue for Veritas. We built a campus of two buildings in Roseville East of Interstate 35 between County Roads C and D. I was promoted to vice president of Storage Engineering and worked with a superior team until I retired June 11, 2004. Our work group had grown to over 400. I am enjoying retirement, but do stay in touch with co-workers through numerous groups and activities. I continue to be an active bowler, golfer, reader, wood crafter, and farm hand. We have a lake home on Bay Lake by Deerwood, Minn., that we enjoy year-round.

**'80 David W. Jacobson '80:** After a long technical career (31 years) at IBM Rochester, I am a tenured faculty member in the Department of Mathematics and Statistics at Metropolitan State University in Saint Paul. I was on sabbatical during the 2018-19 academic year. During my sabbatical, I focused on curriculum development for new programs in Data Science and Industrial and Applied Mathematics. My current interests include statistical machine learning and the inclusion of data science concepts in introductory statistics courses. In our free time, my wife (Deb) and I enjoy walking and traveling. In particular, we take several trips to visit our children: Justin and his wife in Dallas and Emily who is a physician at the University of Michigan in Ann Arbor.



**'80 Shari (Thiel) Prigge '80:** After 34 years of teaching mathematics (one year at Cambridge High School and 33 years at Big Lake High School), I retired in 2014 and returned to my hometown of Battle Lake in 2016. My husband, Tom Prigge (MSUM Industrial Tech grad 1980) and I renovated two cabins along Lake Shore Drive, and currently live in one of them. We have one son, Trenton, who is a civil engineer living in Duluth with his wife, Genna, and their labrador, Rey. Since retirement, we have done a lot of traveling around the U.S. Our goal is to see all 50 states; we have 12 left, over the next few years.

**Joel Langenfeld '87:** I am a data analyst with Delta Dental of Minnesota, working in Minneapolis. My wife, Karen (Hostetler) Langenfeld, also ('87 Special Ed), works for the State of Minnesota in St Paul. We have two children in college. We will be celebrating our 30 year anniversary later this year and would be empty-nesters if the kids didn't keep coming back.

**'89 Ken Lindemann '89:** I am nearing the end of my 29th year of teaching math at O'Gorman High School in Sioux Falls, S.D. I also work as a table leader/test reader for the Educational Testing Service. I will attend my eighth AP Calculus Exam reading in June. My wife, Kerry, works from home as a consultant for an educational research firm. Our daughter Morgan turns nine this spring.

**Veronica (Johnson) Lunde '90:** I teach math at Apollo High School in St. Cloud, grade AP statistics papers for College Board and have three boys. My husband is an MSUM grad.



**Russ Opdahl '90:** Vice President of North America Sales at Oracle Corporation in San Francisco. His wife, Jane, is a graduate of the University of Minnesota in psychology and is a professional photographer. They have two children, Aaron 16 and Kylin 13, and all enjoy road trips to the mountains and beaches.



**Debra (Frank) Haglund '93:** I moved to Denver, Colo., in August 1993, and married Dave Haglund in April 1994. I was hired by the Colorado Department of Transportation in December 1993 and assist the Division of Human Resources as a Technician V. My duties include leadworking three Technicians IIIs, updating HR's website, data analysis, and supporting

enhancements to SAP Human Capital Management (HCM). We moved to Parker, Colo., in June 2012. We have a cat.

**'06 Robert Anderson '06:** I am in my third year of being the middle school principal and the district assessment coordinator in Melrose, Minn. My wife, Lindsay, and I have three children Georgia (11), Monroe (7) and Brigs (5). We all spend a lot of time outdoors hunting and fishing.

**Jami (Muir) Carr '08:** Since graduation in 2008, I taught for two years in the Twin Cities at the middle school level. After that, I moved back to my hometown of Hallock, Minn., where I taught various levels of middle school and high school math at Kittson Central. After four years, I left the classroom and began my journey in administration as dean of students and activities director. I received my master's degree in Educational Leadership with K-12 Principal and Superintendent licenses from MSUM and am currently the K-12 principal and activities director. I have a unique perspective having been a student, teacher, and now administrator in the same district. My husband and I have three children, and we keep ourselves busy with family, work, and coaching.

**'08 Eric Eager '08:** I transitioned from being a mathematics professor to a senior position at Pro Football Focus, a football analytics company in Cincinnati, Ohio. In my role at PFF I perform predictions and analyses for all 32 NFL teams, along with media outlets like NBC, the NFL Network and CBS. I gave the keynote address at the MSUM Student Academic Conference in April.

**CONTINUED »**



**Tyler Otteson '10:** I am a 2010 graduate with a B.S. in Math Education. I have been working at Discovery Middle School teaching many different math classes in Fargo for eight years now! I am married and have three kids, Charlie (6), Izzabella (4) and Beckett (1).



**Nicole Anderson '12:** I live in Moorhead with my husband, Eric Hendrickson, and cat (Coley) and dog (Tardis). The last few years have been busy! We bought a house in Moorhead in fall 2016 and travelled the western half of the country in spring 2017, visiting 17 states! I started a new position as project manager with MSUM's Office of Institutional Effectiveness in June

2018 and love being back on campus. Eric and I were married on a beautiful day in Island Park in September 2018. I completed two 10K races last year and 2019 will be the eighth straight year of participating in a Fargo Marathon event – including four 5Ks, four 10Ks, and one half marathon. In my spare time, I enjoy going for walks with my family, knitting, gardening, and working on home improvement projects.

**'12 Heather (Johnson) Sauer '12:** I have been working for the YMCA for the past six years in aquatics management, and a year ago I became the aquatics director for both the YMCA of Cass & Clay counties and Family Wellness Fargo. I oversee both aquatics departments, managing staff and the swim lesson programs, enrolling about 1,500 kids into swim lessons each session. The time management I learned while in class/activities at MSUM and the experience working for Dragon Swim School has helped me succeed in my current position. In April 2017, I married Nic Sauer. We are currently remodeling a home in Comstock, Minn., and are looking forward to our next home project.

**Megan Sanford '15:** I am currently the assistant swim coach at MSU Moorhead.

**'18 Kristen O. Anderson De La Llata '18:** I landed Sundog's software engineering summer internship on my last semester at MSUM. Even though I was technically a mathematics major, my degree had a computer science emphasis and that is what gave me enough background to be a solid candidate when I applied and eventually got my first position at Sundog. About a month into the internship, I was offered a full-time position as an associate and I have been working here ever since. Sundog is a great employer and I am constantly grateful for my job here. My coworkers bring their dogs to visit our office every other day of the week, I'm invested in the work I do, management is down to earth and I get to work alongside people who I admire every day. When I applied to the internship program, I knew that it would be very competitive and that I did not have the extensive computer science background that most other applicants would have. However, I was able to use my research experience with the Biosciences department as an example of my self-driven motivation and my ability to be an independent learner. The fact that I was also involved in extracurricular volunteering with the local non-profit uCodeGirl gave me a further reference and value as an applicant. Overall I attribute a lot of my current success to MSUM and the resources that they provide to their student body. I was very lucky to have a great advisor, Dr. Fagerstrom, as well as a fantastic research professor in Dr. Anderson from the Biology Department. During my last semester I visited the Career Development Center a few times, and I also reached out to faculty for advice and feedback on my cover letters. I would like to encourage fellow dragons to do the same and take advantage of all opportunities and services that MSUM provides for student success.

**Abraham Roehrich '18:** I am a defensive graduate assistant for Minnesota State University Moorhead football. ■

# PROBLEM CORNER 2019

## Summary

Jean Bernoulli was fascinated with many aspects of analysis and achieved many results including the famed L'Hospital Rule for computing limits. A fascinating achievement of his was that

$$\int_0^1 x^x dx = \frac{1}{1^1} - \frac{1}{2^2} + \frac{1}{3^3} - \frac{1}{4^4} + \dots$$

He did this by writing  $x^x = e^{x \ln(x)}$ . See if you can achieve his result.

## Solution to Problem Corner for 2018

$$\ln |\sqrt{e^{2x} + 1} - 1| - x + C$$



# 18 ONLINE

## A GRADUATE PROGRAM FOR HIGH SCHOOL TEACHERS

**18 Online** provides the 18 credits teachers need to become qualified content area concurrent enrollment instructors. It's the result of HF 3326 and SF 3026 - Northwest Regional Partnership, which appropriated \$3 million to provide curriculum development for the Northwest Regional Partnership continuing education program.

It's a collaboration between Lakes Country Service Cooperative, Northwest Service Cooperative and MSU Moorhead.

Fourteen content areas have been identified as high need for Northwest Minnesota. Legislative funding provides this program free (up to 18 credits in a content area) to qualified teachers in participating cooperatives. Teachers outside of the cooperatives may be enrolled, space permitting.

At this time, MSUM is offering courses in six of the 14 content areas, including Math. Students, teachers and school districts will benefit greatly from this program. For teachers, the benefits of enrolling now:

- **Free tuition for up to 18 credits in a content area**
- **Free books**
- **100% online delivery**
- **Streamlined admission for 18 Online participants**
- **Flexible classes delivered by MSUM faculty**
- **Ensure you have the proper teaching credentials by 2022**

Learn more about the partnership and how to enroll at [mnstate.edu/18online](http://mnstate.edu/18online).



"This year I would like to try something new that I learned about in my summer course (MATH 626). I would like to introduce my students to Polya and Schoenfeld's problem solving."

**- Katie Byer, 2015**  
Teacher in Perham, Minn.





## REFER A STUDENT:

**W**e know our mathematics alumni have been transformed by their MSUM experience. Your commitment to staying in touch and sharing your stories are proof that MSUM has had a profound and lasting impact. You can help continue to shape and build the Dragon community by referring a student you think would be a great fit at MSU Moorhead.

You can refer students in several ways.

- **Complete the “Request information from MSUM Moorhead” form for the student at:**  
<https://www.mnstate.edu/admissions/undergraduate/request-information.aspx>
- **Email your recommendation to:**  
[admissions@mnstate.edu](mailto:admissions@mnstate.edu)
- **Encourage the student to check out MSUM:**  
[www.mnstate.edu/visit/](http://www.mnstate.edu/visit/)
- **Call today to learn more:**  
1.877.678.6463 or 218.477.2161



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MSU Moorhead's **nationally accredited** graduate programs are **flexible, convenient, personable** and **affordable**.

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Curriculum & Instruction  
Educational Leadership  
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MBA  
MBA - Health Care  
Management  
Health Care Administration  
Nursing  
Special Education

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Affairs

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## **Want to help support the Math Department?**

**W**e encourage you to make a contribution to the MSUM Alumni Foundation when they contact you in their annual appeal. Please consider designating your donation to a mathematics department scholarship (there are several) or to the mathematics department discretionary fund. In fact, we now have an endowed fund for actuarial among them. The phone volunteer may not ask if you want to designate, but your expressed wishes will be honored. Thanks.

